Remarks

Claims 1-10 are pending.

Claims 1-5 and 9-10 stand rejected.

Claims 6-8 are objected to.

Claims 1 and 3-10 are amended.

Claim 2 has been cancelled without prejudice.

Claim 11 has been added.

Claims 1 and 3-11 are submitted herein for review.

No new matter has been added.

In the Office Action the Examiner has rejected claims 1-3, 9 and 10 under 35 U.S.C. § 102(b) as being anticipated by Lusk (U.S. Patent No. 3,571,783). Claims 1-5, 9 and 10 were also rejected under 35 U.S.C. § 102(b) as being anticipated by Niekrasz et al. (U.S. Patent No. 5,899,765).

Applicants respectfully disagree with the Examiner's contentions and submit the following remarks in response.

The present invention as claimed in claim 1 is directed to an electrical subsea connector comprising an electrical connection means and an insulating means surrounding the electrical connection means. A sealing means is provided for preventing surrounding liquid such as sea water from coming into contact with the electrical connection means in order to ensure

watertightness. The sealing means has a sealing compound such as a grease. An outer housing enclosing the electrical connection means, insulating means and sealing means, and extends along a longitudinal axis.

The insulating means is formed of a solid and elastic molded insulation layer attached to and fixed with respect to the outer housing. The insulation layer is coaxial with the outer housing and is disposed around the electrical connection means so as to define a chamber suitable for receiving at least one electrical cable end. The insulation layer is coaxial with the chamber, where the chamber is dimensioned so that when a cable end is fully inserted into it, the cable end replaces substantially all the sealing compound and forming a tight fit between the insulation layer and the insulation of the cable end.

In this configuration, an improved subsea connector is provided that does not suffer from the drawbacks associated with prior art designs that use insulating greaseor other such compounds as a primary insulating material. Page 1, line 30 through page 2, line 5 of the present application states:

> "This solution raises some difficult problems because known insulating greases have lower diaelectric strength than solids, or impregnated solids, and the thickness of the grease layer may not be stable; therefore, the insulating grease layer must be made thick in order to withstand a high voltage. Moreover, insulating grease must be retained in the connector and there is always a risk of grease leaking out which could raise a water penetration in the connector."

The present invention overcomes these drawbacks by providing an insulating means that is formed of a solid and elastic molded insulation layer. This molded insulation layer defines the chamber for receiving the electrical cable end. This provides a more advantageous and stable

insulating layer than those found in prior art connectors. A grease is also used in the present invention, but that grease is only for sealing the connector to prevent sea water from entering before the cable is inserted. However, unlike in prior art systems, this grease is nearly completely expelled while placing the cable into the connector.

The first reference cited by the Examiner, namely the Lusk reference, teaches a cable joining device for cable connections. The diaelectric compound 27 is used as a permanent insulator and must be prevented from escaping after the cable has been inserted. Column 2, lines 56-65 of the Lusk reference states:

> "At the factory the metal casing is filled with a diaelectric compound 27 which is admitted to the interior of the casing by removing plugs 20. When filled the plugs are threaded in place and the diaelectric filling compound is retained since the open ends 19 of the casing are closed by the plastic films 22. However, the elastomeric diaphragms are each centrally apertured for receiving the cable ends to be joined by the device. The opening in erach diaphragm is in tension circumferentially of the inserted cable. This forms a seal with the cable after the cable has been inserted and prevents escape of the filling compound."

The second reference cited by the Examiner, namely the Niekrasz reference, teaches a dual bladder submersible connector designed for mating and demating in underwater applications. See column 1, lines 4-8. The background goes on to assert that there is a need for a wetmate type of underwater connector that includes redundant bladders. See column 2, lines 10-14.

The Niekrasz reference goes on to describe a connector that requires the continuous presence of a diaelectric fluid (silicon oil) within at least one rubber bladder. Means are provided that prevent the fluid from leaking out, otherwise the connector would fail. Column 4,

lines 37-41 of Niekrasz states:

> "a diaelectric fluid, such as a 10,000 centistoke (CS) silicone fluids fills the internal volume of the inner bladder 28 and thus bathes the socket contact 24 therein. The liquid diaelectric functions to prevent the electrical contact surfaces of the socket contact 12 from deterioration."

Applicant respectfully submit that neither of the cited references teach or suggest all of the elements of the present invention as claimed in independent claim 1. For example, there is no teaching or suggestion in either Lusk or Niekrasz that discloses an insulating means formed of a solid and elastic molded insulation layer attached to and fixed with respect to said outer housing where the molded insulation layer is disposed around the electrical connection means so as to define a chamber suitable for receiving at least one electrical cable end. On the contrary both Lusk and Neikrasz teach a fluid diaelectirc compound as the insulating means. Such a design is exactly the problem that the present invention overcomes by forming the insulation means from a solid and elastic molded insulation layer.

Furthermore neither Lusk nor Niekrasz teach or suggest a sealing means that is formed of a sealing compound such as a grease, where the chamber is dimensioned so that when a cable end is fully inserted into it, the cable end replaces substantially all the sealing compound and forming a tight fit between the insulation layer and the insulation of the cable end. This is in sharp contrast to the Lusk and Niekrasz references, which, as explained above, both require the retention of the fluid sealing compound so as to form the permanent insulation layer.

For at least these reasons, Applicants submit that the cited prior art does not teach all of the elements of the claimed invention as claimed in independent claim 1, and respectfully

requests that this rejection be withdrawn. As claims 3-11 depend therefrom, Applicants request that the rejection to these claims be withdrawn for the same reasons.

In view of the forgoing, Applicants respectfully submit that pending claims 1 and 3-11 are in condition for allowance, the earliest possible notice of which is earnestly solicited. If the Examiner feels that an interview would facilitate the prosecution of this Application he is invited to contact the undersigned at the number listed below.

Respectfully submitted,

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